

### **Remarks**

The Final Office Action mailed August 24, 2006 has been carefully considered, and Applicants' counsel offers the following remarks. Favorable reconsideration of the present application is respectfully requested.

The Final Rejection is objected to.

Claims 1-6 and 20 have been amended for clarification of the invention. New Claim 23 has been added. No new matter has been added.

The first part of the Final Office Action is directed to the Information Disclosure Statements. There appears to be confusion on what has been submitted and what is in the record. To help clarify this, the following documents are attached hereto:

Attachment A Information Disclosure Statement, marked received by the USPTO on August 7, 2000. Pages 1-8 include a brief summary of each reference cited on the attached Information Disclosure Statement by Applicant. According to Public PAIR, Attachment A is in the USPTO file.

Attachment B Supplemental Information Disclosure Statement, marked received by the USPTO on October 10, 2000. Pages 1-2 include a brief summary of each reference cited on the attached Information Disclosure Statement by Applicant. According to Public PAIR, Attachment B is in the USPTO file.

Attachment C Third Information Disclosure Statement, marked received by the USPTO on October 18, 2000. Pages 1-2 include a brief summary of each reference cited on the attached Third Information Disclosure Statement by Applicant. According to Public PAIR, Attachment C is not in the USPTO file. Based on the evidence of the

date-stamped post card showing the Third Information Disclosure Statement was received by the USPTO, it is requested that the Third Information Disclosure Statement be entered into the record.

Attachment D Fourth Information Disclosure Statement, marked received by the USPTO on December 20, 2000. Pages 1-2 include a brief summary of each reference cited on the attached Fourth Information Disclosure Statement by Applicant. According to Public PAIR, Attachment D is not in the USPTO file. Based on the evidence of the date-stamped post card showing the Fourth Information Disclosure Statement was received by the USPTO, it is requested that the Fourth Information Disclosure Statement be entered into the record.

Attachment E Fifth Information Disclosure Statement, marked received by the USPTO on March 10, 2005. According to Public PAIR, Attachment E is in the USPTO file.

Attachment F This is an Information Disclosure Statement that the Examiner asserts was filed on January 20, 2006. However as set forth in the responses, this document was submitted as evidence of the Information Disclosure Statement submitted on August 7, 2000, which can be found in Attachment A.

The following attachments are documents showing the acknowledgement by the Examiner of the foregoing Information Disclosure Statements or portions thereof:

Attachment G Information Disclosure Statement By Applicant filed on August 7, 2000 as the Supplemental Information Disclosure Statement and found in Attachment A, wherein the U.S. Patent Documents were initialed by the Examiner but the Examiner

wrote MISSING across the listed Foreign Patent Documents B1-B42. Attachment A shows that copies of the 92 references were received by the Patent Office as well as a concise explanation of Foreign Patent Documents B1-B42.

Attachment H Information Disclosure Statement By Applicant filed on October 10, 2000 as the Supplemental Information Disclosure Statement and found in Attachment B.

Attachment I Information Disclosure Statement By Applicant that was filed on October 18, 2000 as the Third Information Disclosure Statement and found in Attachment C.

Attachment J Information Disclosure Statement By Applicant that was filed on March 10, 2005 as the Third Information Disclosure Statement and found in Attachment E.

In view of the foregoing, the following submitted references have not been acknowledged by the Examiner:

1. The Foreign Patent Documents B1-B42 listed on the Information Disclosure Statement By Applicant filed August 7, 2000, and found in Attachment A. A concise explanation of the relevance as it is was understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information when it was submitted is found in the August 7, 2000 filing.
2. The Fourth Information Disclosure Statement filed December 20, 2000 and found in Attachment D. A concise explanation of the relevance as it is was understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the

content of the information when it was submitted is found in the December 20, 2000 filing.

On page 2 of the Final Office Action, the Examiner discussed "The Information Disclosure Statement" filed 20 January 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information." It is believed the foregoing documents that no Information Disclosure Statement was filed on January 20, 2006, but what was filed was a listing of Foreign Patent Documents from the Information Disclosure Statement filed on August 7, 2000. The Information Disclosure Statement attached to the 20 January 2006 response was responsive to the Examiner marking the Foreign References on the IDS date-stamped by the USPTO on August 7, 2000 as "MISSING." A concise explanation of each document was provided in the August 7, 2000 filing.

The Applicants fully explained in the Response of 20 January 2006, "that out of caution, we are resubmitting the foreign references marked 'MISSING.'"

For the reasons set forth below, Applicants believe that they have complied with 37 CFR 1.98(a)(3) for all of the Information Disclosure Statements submitted to the USPTO. Furthermore, it is asserted by the Attorney for Applicants that the duty of disclosure to the US Patent and Trademark office for the references cited on the Information Disclosure Statements submitted to date for this application.

Claims 1-6 and 20-22 are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Woodrum (US 5,997,690). The present claims require a ratio or pre-superabsorbent polymer to fiber from about 30:70 to about 40:60. Woodrum discloses in column 3, lines 1-4, from about 50% to about 80% SAP and about 20% to

about 50%. Woodrum discloses a ratio of SAP to fiber of 50:50 to 80:20, which does include the ratio of the present invention. The foregoing ratio limitation is found in claim 21, and is not new to the claims, and would not require any further searching by the Examiner.

In view of the foregoing remarks and amendments to the claims, Applicants submit that this case is now in condition for allowance of claims 1-6 and 20-23, and such action is respectfully requested. The rejection of claims 1-6 and 20-22 under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Woodrum should be withdrawn.

Respectfully submitted,

/Philip P. McCann/

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Registration No. 30,919

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Date: October 24, 2006

File No. 5003073-005US2

# **Attachment A**

The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
Serial No.: 09/603,323  
Applicant: Sun et al.

The following items mailed to the U.S. Patent and Trademark Office on the date  
indicated below:

1. Transmittal Letter
2. Information Disclosure Statement (8 pages)
3. Forms PTO/SB/08A (5 pages) and PTO/SB/08B (1 page), both in duplicate
4. Copies of 92 Cited References
5. Return-Receipt Postcard

☒ First Class Mail  
☐ Express Mail Label No.: \_\_\_\_\_

The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
Serial No.: 09/603,323  
Applicant: Sun et al.

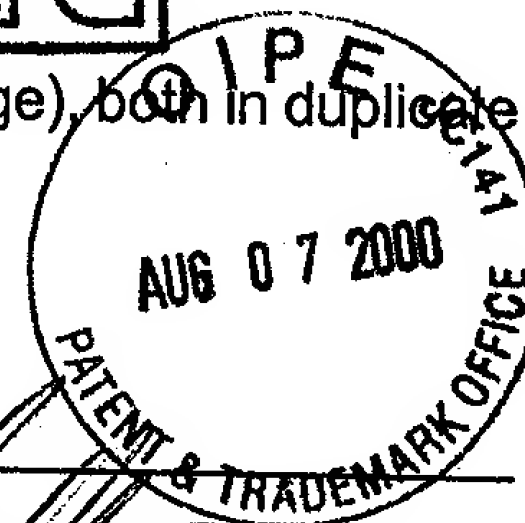
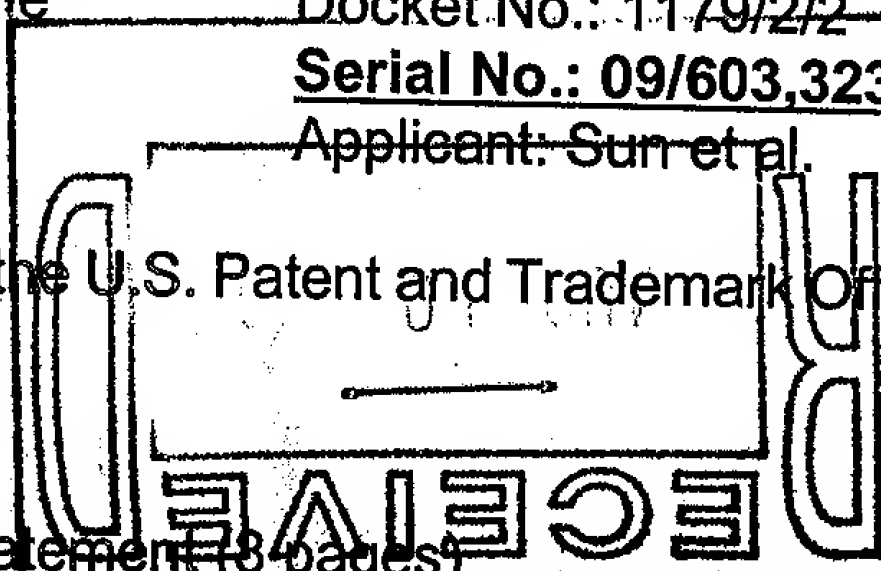
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4. Copies of 92 Cited References
5. Return-Receipt Postcard

☒ First Class Mail  
☐ Express Mail Label No.: \_\_\_\_\_

Date Transmitted: August 3, 2000

By \_\_\_\_\_



JENKINS & WILSON, P.A.

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August 3, 2000

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. on 8-3-00

  
Amy J. Martin

Date of Signature 8-3-00

Commissioner for Patents  
Washington, D.C. 20231

Re: U.S. Patent Application Serial No. 09/603,323  
for MANUFACTURE OF WEB SUPERABSORBENT POLYMER  
Our File No. 1179/2/2

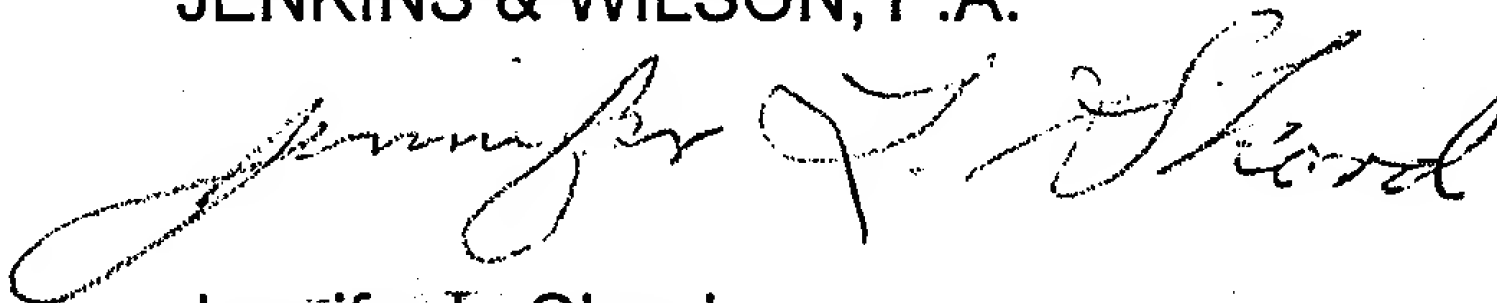
Sir:

Please find enclosed in connection with the subject U.S. patent application the following documents:

1. Information Disclosure Statement (8 pages);
2. Forms PTO/SB/08A (5 pages) and PTO/SB/08B (1 page), both in duplicate;
3. Copies of cited references (92 references); and
4. A return-receipt postcard to be returned to us with the U.S. Patent and Trademark Office filing stamp thereon.

Respectfully submitted,

JENKINS & WILSON, P.A.



Jennifer L. Skord  
Registration No. 30,687

JLS/ajm

Enclosures



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231 on 8-3-00

Amy J. Martin  
Date of Signature 8-3-00

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sun et al.

**Serial No.: 09/603,323**

Group Art Unit:

Filed: June 26, 2000

Docket No.: 1179/2/2

For: MANUFACTURE OF WEB SUPERABSORBENT POLYMER

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. 1.56, 1.97, and 1.98, applicants' undersigned attorney brings to the attention of the Patent and Trademark Office the following references. Copies of the references as well as Forms PTO/SB/08A and PTO/SB/08B are attached hereto. This is not to be construed as a representation that a search has been made or that a reference is relevant merely because cited.

U.S. Patent No. 4,076,663 to Masuda et al. discloses water absorbing starch resins.

U.S. Patent No. 4,260,443 to Lindsay et al. discloses a laminated absorbent process.

U.S. Patent No. 4,270,977 to Herman et al. discloses a process for preparing water sorptive products.

U.S. Patent No. 5,409,771 to Dahmen et al. discloses aqueous-liquid and blood-absorbing powdery reticulated polymers, a process for producing the same and their use as absorbents in sanitary articles.

U.S. Patent No. 4,286,082 to Tsubakimoto et al. discloses an absorbent resin composition and a process for producing same.

U.S. Patent No. 4,418,163 to Murakami et al. discloses a water absorbing composite comprising inorganic powder encapsulated with a crosslinked carboxyl polymer.

U.S. Patent No. 4,454,055 to Richman et al. discloses an absorbent composition of matter, a process for preparing same and an article prepared therefrom.

U.S. Patent No. 4,467,012 to Pedersen et al. discloses a composition for absorbent film and a method of preparation.

U.S. Patent No. 4,550,033 to Boutin discloses free-flowing flakes of hydrophilic/water-soluble polymer gel.

U.S. Patent No. 4,552,618 to Kopolow discloses stabilized absorbent boards.

U.S. Patent No. 4,587,308 to Makita et al. discloses a method for producing improved water-absorbent resins.

U.S. Patent No. 4,600,458 to Kramer et al. discloses a method of making an absorbent laminate structure.

U.S. Patent No. 4,626,472 to Boutin discloses free-flowing flakes of hydrophilic/water-soluble polymer gel.

U.S. Patent No. 4,654,039 to Brandt et al. discloses hydrogel-forming polymer compositions for use in absorbent structures.

U.S. Patent No. 4,732,968 to Obayashi et al. discloses a process for granulating a water-absorbent resin employing (a) water, (b) inorganic powder and (c) surfactant in an inert solvent.

U.S. Patent No. 4,735,987 to Morita et al. discloses a method for manufacture of high-expansion type absorbent polymer.

U.S. Patent No. 4,758,617 to Tanioku et al. discloses a process for preparing water-absorbing resin.

U.S. Patent No. 4,833,198 to Stanley, Jr. et al. discloses a suspending agent for the suspension polymerization of water-soluble monomers.

U.S. Patent No. 4,865,596 to Weisman et al. discloses composite absorbent structures and absorbent articles containing such structures.

U.S. Patent No. 4,914,066 to Woodrum discloses pellets of clay and superabsorbent polymer.

U.S. Patent No. 4,929,502 to Giglia discloses fibrillated fibers and articles made therefrom.

U.S. Patent No. 4,950,264 to Osborn, III discloses a thin, flexible sanitary napkin. This is one of the priority cases for EP Application Publication No. 0 336 578 A1, mentioned below.

U.S. Patent No. 4,977,192 to Martineu et al. discloses a polymer composition charged with powdered mineral material with a high capacity of water absorption.

U.S. Patent No. 4,986,882 to Mackey et al. discloses absorbent paper comprising polymer-modified fibrous pulps and a wet-laying process for the production thereof.

U.S. Patent No. 5,009,653 to Osborn, III discloses a thin, flexible sanitary napkin. This is one of the priority cases for EP Application Publication No. 0 336 578 A1, mentioned below.

U.S. Patent No. 5,087,656 to Yoshinaga et al. discloses a highly water-absorbent powdery polymer composition.

U.S. Patent No. 5,093,130 to Fujii et al. discloses powder coated hydrogel capsules.

U.S. Patent No. 5,096,944 to Itou et al. discloses a process for preparing particles of high water-absorbent resin.

U.S. Patent No. 5,145,906 to Chambers et al. discloses a super-absorbent polymer having improved absorbency properties.

U.S. Patent No. 5,147,343 to Kellenberger discloses absorbent products containing hydrogels with ability to swell against pressure.

U.S. Patent No. 5,147,921 to Mallo discloses new powdered superabsorbents, containing silica, their preparation process and their use.

U.S. Patent No. 5,160,789 to Barcus et al. discloses fibers and pulps for papermaking based on the chemical combination of poly(acrylate-co-itaconate), polyol and cellulosic fiber.

U.S. Patent No. 5,217,445 to Young et al. discloses absorbent structures containing superabsorbent material and a web of wetlaid stiffened fibers.

U.S. Patent No. 5,300,192 to Hansen et al. discloses wet laid fiber sheet manufacturing with reactivatable binders for binding particles to fibers.

U.S. Patent No. 5,308,896 to Hansen et al. discloses particle binders for high bulk fibers.

U.S. Patent No. 5,383,869 to Osborn, III discloses a thin, flexible sanitary napkin.

U.S. Patent No. 5,422,169 to Roe discloses absorbent structures containing specific particle size distributions of superabsorbent hydrogel-forming materials in relatively high concentrations.

U.S. Patent No. 5,447,977 to Hansen et al. discloses particle binders for high bulk fibers.

U.S. Patent No. 5,453,323 to Chambers et al. discloses a superabsorbent polymer having improved absorbency properties.

U.S. Patent No. 5,496,626 to Hamajima et al. discloses absorbent paper and an absorbent article provided therewith.

U.S. Patent No. 5,509,914 to Osborn, III discloses a thin, flexible sanitary napkin.

U.S. Patent No. 5,538,783 to Hansen et al. discloses non-polymeric organic binders for binding particles to fibers.

U.S. Patent No. 5,543,215 to Hansen et al. discloses polymeric binders for binding particles to fibers.

U.S. Patent No. 5,549,589 to Horney et al. discloses a fluid distribution member for absorbent articles exhibiting high suction and high capacity.

U.S. Patent No. 5,571,618 to Hansen et al. discloses reactivatable binders for binding particles to fibers.

U.S. Patent No. 5,575,786 to Osborn, III discloses a thin sanitary napkin.

U.S. Patent No. 5,589,256 to Hansen et al. discloses particle binders that enhance fiber densification.

U.S. Patent No. 5,607,550 to Akers discloses an absorbent nonwoven fabric and its production.

U.S. Patent No. 5,609,727 to Hansen et al. discloses a fibrous product for binding particles.

PCT International Publication No. WO 92/02596 which is in Russian (and its counterpart European Patent Application Publication No. 0 495 108 A1 which is in English and this constitutes a translation) disclose a water-swelling polymer-mineral composite and a method of obtaining it.

PCT International Publication No. WO 92/15741 discloses a method of densifying crosslinked fibers.

PCT International Publication No. WO 93/17066 discloses absorbent polymers and their production.

PCT International Publication No. WO 93/21879 discloses a generally thin, flexible sanitary napkin with stiffened center.

PCT International Publication No. WO 93/24153 discloses surface treated absorbent polymers.

PCT International Publication No. WO 96/12849 discloses a nonwoven material containing a mixture of pulp fibres and long hydrophillic plant fibres and a method of producing the nonwoven material.

PCT International Publication No. WO 96/23474 discloses an absorbent article with fractionation member.

European Patent Application Publication No. 0 336 578 A1 discloses a thin, flexible sanitary napkin.

European Patent Application Publication No. 0 339 461 A1 discloses absorbent products containing hydrogels with ability to swell against pressure.

European Patent Application Publication No. 0 359 615 A1 discloses manufacture of superabsorbent composite structures.

European Patent Application Publication No. 0 437 816 A1 discloses a superabsorbent wet-lay nonwoven product.

European Patent Application Publication No. 0 483 816 A1 discloses a hydraulically needled nonwoven pulp fiber web, a method of making same and a use of same.

European Patent Application Publication No. 0 516 925 A1 discloses wrinkled absorbent particles of high effective surface area having fast absorption rate.

European Patent Application Publication No. 0 530 438 A1 discloses a superabsorbent polymer having improved absorbency properties.

European Patent Application Publication No. 0 641 885 A1 discloses a wet nonwoven cloth and a method of manufacturing the same.

Canadian Patent No. 2,008,323 discloses aggregates of water-swellaable polymers and a method for producing them, and aggregates having increased hydration rate over unassociated water-swellaable polymers.

Canadian Patent No. 2,042,183 discloses absorbent polymers, their manufacturing process and their use.

English language Abstract only of Japanese Patent Publication No. 01024808 A discloses reducing residual monomer in hydrophilic macromolecular polymer.

English language Abstract only of Japanese Patent Publication No. 01178509 A discloses preparation of water-absorbable resin.

English language Abstract only of Japanese Patent Publication No. 02052057 A discloses pulverising highly water absorbing resin.

English language Abstract only of Japanese Patent Publication No. 03045799 A discloses neutral paper production.

English language Abstract only of Japanese Patent Publication No. 03296592 A discloses cooling material for health or food industry.



English language Abstract only of Japanese Patent Publication No. 06000370

A discloses a water absorbing agent.

English language Abstract only of Japanese Patent Publication No. 06016822

A discloses water absorbing resin particles production used for diapers and napkins.

English language Abstract only of Japanese Patent Publication No. 06158581

discloses a wet nonwoven fabric having high uniform water absorbency.

English language Abstract only of Japanese Patent Publication No. 06263881

A discloses granulating highly water-adsorbable resins.

English language Abstract only of Japanese Patent Publication No. 63143906

A discloses a dehydration sheet, for selective dehydration of fresh food.

English language Abstract only of Japanese Patent Publication No. 07025935

A discloses manufacturing water absorbable polymer for disposable diapers, etc.

English language Abstract only of Japanese Patent Publication No. 08092454

A discloses hydrophilic polymer powder composition for preventing fluidity reduction.

English language Abstract only of Japanese Patent Publication No. 08217909

A discloses manufacture of water absorbing resin compositions for sanitary goods.

English language Abstract only of Japanese Patent Publication No. 59080459

A discloses a water absorbing resin powder composition.

English language Abstract only of Japanese Patent Publication No. 59192710

A discloses a water absorbing fibrous composite material.

English language Abstract only of Japanese Patent Publication No. 61141760

A discloses a high water absorbing gelling agent.

English language Abstract only of Japanese Patent Publication No. 62243648

A discloses a fibre particle powder.

English language Abstract only of Japanese Patent Publication No. 62254841

A discloses production of highly swelling water absorptive polymer.

English language Abstract only of Japanese Patent Publication No. 63105064

A discloses a highly water absorptive resin composition.

English language Abstract only of Japanese Patent Publication No. 63146901

A discloses a reversed phase suspension polymerisation.

English language Abstract only of Japanese Patent Publication No. 63210109

A discloses water retention agents, for sanitary materials or agricultural use.

English language Abstract only of Japanese Patent Publication No. 63216742

A discloses a coat layer for writing on synthetic and metal products.

English language Abstract only of Japanese Patent Publication No. 63279724

A discloses a granular culture soil with good water-absorbence.

United Kingdom Patent Application Publication No. GB 2 293 388 A discloses a liquid absorbent comprising internal spaces providing swelling capacity for binding liquid harmful materials.

Journal Article by Buchholz, "Keeping Dry with Superabsorbent Polymers", Chemtech, (September, 1994) discloses use for polyacrylate formulations ranging from diapers to optical fiber coatings to construction sealants.

Early passage of the subject application to issue is earnestly solicited.

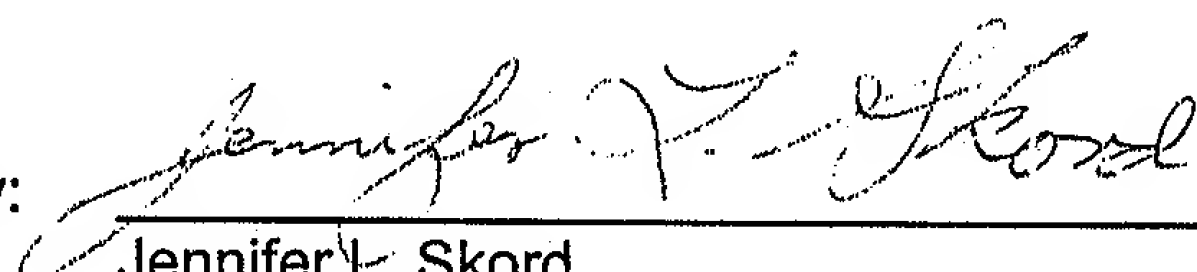
Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this Information Disclosure Statement to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.

Date: August 3, 2000

By:

  
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1179/2/2 JLS/ajm

Enclosures



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/603,323
		Filing Date	06/26/2000
		First Named Inventor	Fang Sun
		Group Art Unit	
		Examiner Name	
Sheet 1	of 5	Attorney Docket Number	1179/2/2

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	4,076,663		Masuda et al.	02/28/1978	
	A2	4,260,443		Lindsay et al.	04/07/1981	
	A3	4,270,977		Herman et al.	06/02/1981	
	A4	5,409,771		Dahment et al.	04/25/1995	
	A5	4,286,082		Tsubakimoto et al.	08/25/1981	
	A6	4,418,163		Murakami et al.	11/29/1983	
	A7	4,454,055		Richman et al.	06/12/1984	
	A8	4,467,012		Pedersen et al.	08/21/1984	
	A9	4,550,033		Boutin	10/29/1985	
	A10	4,552,618		Kopolow	11/12/1985	
	A11	4,587,308		Makita et al.	05/06/1986	
	A12	4,600,458		Kramer et al.	07/15/1986	
	A13	4,626,472		Boutin	12/02/1986	
	A14	4,654,039		Brandt et al.	03/31/1987	
	A15	4,732,968		Obayashi et al.	03/22/1988	
	A16	4,735,987		Morita et al.	04/05/1988	
	A17	4,758,617		Tanioku et al.	07/19/1988	
	A18	4,833,198		Stanley, Jr. et al.	05/23/1989	
	A19	4,865,596		Weisman et al.	09/12/1989	
	A20	4,914,066		Woodrum	04/03/1990	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B1	WO	92/02596		Grigorian et al.	02/20/1992		X
	B2	WO	92/15741		Sultze et al.	09/17/1992		X
	B3	WO	93/17066		Johnson	09/02/1993		X
	B4	WO	93/21879		Osborn, III	11/11/1993		X
	B5	WO	93/24153		Graham	12/09/1993		X
	B6	WO	96/12849		Holm et al.	05/02/1996		X
	B7	WO	96/23474		Hammons et al.	08/08/1996		X
	B8	EP	0 336 578		Osborn, III	10/11/1989		X
	B9	EP	0 339 461		Kellenberger	11/02/1989		X
	B10	EP	0 359 615		Makoul et al.	03/21/1990		X

For the JP Patent Publications, the JP Patent Publication is not enclosed, but only an English language Abstract is enclosed.

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>		Application Number	09/603,323
		Filing Date	06/26/2000
		First Named Inventor	Fang Sun
		Group Art Unit	
		Examiner Name	
Sheet 2 of 5	Attorney Docket Number	1179/2/2	

U.S. PATENT DOCUMENTS						
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A21	4,929,502		Giglia	05/29/1990	
	A22	4,950,264		Osborn, III	08/21/1990	
	A23	4,977,192		Martineu et al.	12/11/1990	
	A24	4,986,882		Mackey et al.	01/22/1991	
	A25	5,009,653		Osborn, III	04/23/1991	
	A26	5,087,656		Yoshinaga et al.	02/11/1992	
	A27	5,093,130		Fujii et al.	03/03/1992	
	A28	5,096,944		Itou et al.	03/17/1992	
	A29	5,145,906		Chambers et al.	09/08/1992	
	A30	5,147,343		Kellenberger	09/15/1992	
	A31	5,147,921		Mallo	09/15/1992	
	A32	5,160,789		Barcus et al.	11/03/1992	
	A33	5,217,445		Young et al.	06/08/1993	
	A34	5,300,192		Hansen et al.	04/05/1994	
	A35	5,208,896		Hansen et al.	05/03/1994	
	A36	5,383,869		Osborn, III	01/24/1995	
	A37	5,422,169		Roe	06/06/1995	
	A38	5,447,977		Hansen et al.	09/05/1995	
	A39	5,453,323		Chambers et al.	09/26/1995	
	A40	5,496,626		Hamajima et al.	03/05/1996	

FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B11	EP	0 437 816		Kim	07/24/1991		X
	B12	EP	0 483 816		Barnes et al.	05/06/1992		X
	B13	EP	0 495 108		Grigorian et al.	07/22/1992		X
	B14	EP	0 516 925		Stanley et al.	12/09/1992		X
	B15	EP	0 530 438		Chambers et al.	03/10/1993		X
	B16	EP	0 641 885		Mizukami et al.	03/08/1995		X
	B17	CA	2,008,323		Tai	07/24/1990		X
	B18	CA	2,042,183		Mallo	11/15/1991		X
	B19	JP	01024808		Arakawa Kagaku Kogyo KK	09/23/1993		X
	B20	JP	01178509		Saotome K	09/23/1993		X

For the JP Patent Publications, the Jp Patent Publication is not enclosed, but only an English language Abstract is enclosed.

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B21	JP	02052057		Rikagaku Kankyusho	09/28/1993		X
	B22	JP	03045799		Mitsubishi Paper Mills Ltd	09/28/1993		X
	B23	JP	03296592		Nippon Shokubai Co Ltd	10/06/1993		X
	B24	JP	06000370		Nippon Shokubai Co Ltd	03/22/1994		X
	B25	JP	06016822		Sekisui Plastics Co Ltd	04/18/1994		X
	B26	JP	06158581		Kanebo Ltd.	06/07/1994		X
	B27	JP	06263881		Mitsubishi Petrochemical Co Ltd	12/12/1994		X
	B28	JP	63143906		Hayashikane Shipbuilding	06/16/1988		X
	B29	JP	07025935		Idemitsu Petrochem Co	04/12/1995		X
	B30	JP	08092454		Sanyo Chem Ind Ltd	06/18/1996		X

For the Jp Patent Publications, the JP Patent Publication is not enclosed, but only an English language Abstract is enclosed.

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	09/603,323
				Filing Date	06/26/2000
				First Named Inventor	Fang Sun
				Group Art Unit	
				Examiner Name	
Sheet	4	of	5	Attorney Docket Number	1179/2/2

[illegible]

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B31	JP	08217909		Arakawa Chem Ind Ltd	11/04/1996		X
	B32	JP	59080459		Arakawa Kagaku Kogyo KK	09/25/1993		X
	B33	JP	59192710		Toray Ind Inc	09/25/1993		X
	B34	JP	61141760		Miyata Kogyo KK	09/22/1993		X
	B35	JP	62243648		Kajiwarara H	09/22/1993		X
	B36	JP	62254841		Osaka Yuki Kagaku	09/22/1993		X
	B37	JP	63105064		Nippon Synthetic Chem Ind Co	09/23/1993		X
	B38	JP	63146901		Shiraishi Chuo Kenkyusho KK	09/23/1993		
	B39	JP	63210109		Kanae Kagaku Kogyo KK	09/23/1993		X
	B40	JP	63216742		Newton KK	09/23/1993		X

Examiner Signature		Date Considered	
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

†

App. for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**Complete if Known**

Application Number	09/603,323
Filing Date	06/26/2000
First Named Inventor	Fang Sun
Group Art Unit	
Examiner Name	
Attorney Docket Number	1179/2/2

*(use as many sheets as necessary)*

Sheet	5	of	5
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[illegible][illegible]

**Examiner  
Signature**

Date	
Considered	

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	09/603,323
				Filing Date	06/26/2000
				First Named Inventor	Fang Sun
				Group Art Unit	
				Examiner Name	
				Attorney Docket Number	1179/2/2
Sheet	1	of	1		

[illegible]

Examiner Signature		Date Considered	
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# **Attachment B**

The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
Inventor(s): Sun et al.  
**Serial No.: 09/603,323**  
Title: MANUFACTURE OF WEB ...

The following items mailed to the U.S. Patent and Trademark Office on the date indicated  
below:

1. Supplemental Information Disclosure Statement (3 pages)
2. Forms PTO/SB/08A and PTO/SB/08B, in duplicate
3. Copies of 19 Cited References
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Date Transmitted: October 5, 2000 By: 

The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
Inventor(s): Sun et al.  
**Serial No.: 09/603,323**  
Title: MANUFACTURE OF WEB ...


The following items mailed to the U.S. Patent and Trademark Office on the date indicated  
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1. Supplemental Information Disclosure Statement (3 pages)
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Date of Signature 10-5-00

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sun et al.

**Serial No.: 09/603,323**

Group Art Unit: 1773

Filed: June 26, 2000

Docket No.: 1179/2/2

For: MANUFACTURE OF WEB SUPERABSORBENT POLYMER

\*\*\*\*\*

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. 1.56, 1.97, and 1.98, applicants' undersigned attorney brings to the attention of the Patent and Trademark Office the following references. Copies of the references as well as Forms PTO/SB/08A and PTO/SB/08B are attached hereto. This is not to be construed as a representation that a search has been made or that a reference is relevant merely because cited.

U.S. Patent No. 3,699,103 to Kiss discloses a process for the manufacture of 5-deoxy-L-arabinose and novel intermediates.

U.S. Patent No. 4,124,748 to Fujimoto et al. discloses a cross-linked saponified absorbent polymer.

U.S. Patent No. 4,134,748 to Hileman et al. discloses a linkage for operating a mold for a glass making machine.

U.S. Patent No. 4,354,901 to Kopolow discloses flexible absorbent boards.

U.S. Patent No. 4,381,782 to Mazurak et al. discloses highly absorbent materials having good wicking characteristics which comprise hydrogel particles and surfactant treated filler.

U.S. Patent No. 4,605,401 to Chmelir et al. discloses a material for the absorption of water, aqueous solutions and aqueous body fluids.

U.S. Patent No. 4,699,823 to Kellenberger et al. discloses a non-layered absorbent insert having z-directional superabsorbent concentration gradient.

U.S. Patent No. 5,124,188 to Roe et al. discloses porous, absorbent, polymeric macrostructures and methods of making the same.

U.S. Patent No. 5,125,188 to Ogawa et al. discloses a grinding wheel having grinding monitoring and automatic wheel balance control functions.

U.S. Patent No. 5,154,713 to Lind discloses enhancing absorption rates of superabsorbents by incorporating a blowing agent.

U.S. Patent No. 5,229,466 to Brehm et al. discloses a powdery absorbing material for aqueous liquids based on water-swellaable carboxylate polymers.

U.S. Patent No. 5,399,591 to Smith et al. discloses a superabsorbent polymer having improved absorption rate and absorption under pressure.

U.S. Patent No. 5,610,220 to Klimmek et al. discloses powder-form polymers which absorb, even under pressure, aqueous liquids and blood, a method of producing them and their use in textile articles for body-hygiene applications.

U.S. Patent No. 5,408,019 to Mertens et al. discloses a cross-linked water-absorbing polymer and its use in the production of hygiene items.

PCT International Publication No. WO 95/32860 to Bruggemann et al. discloses a layered element for the absorption of liquids, and has priority to German P 44 18 319.4, which matured into German Patent No. 44 18 319 A1. The abstract of WO 95/32860 is in English.

European Patent Application No. 0 530 517 A1 to Tsal discloses a method of treating water-insoluble superabsorbent materials.

Japanese Patent No. 89026736 B, assigned to Sanyo Chem. Ind. Ltd., discloses an absorbent material for diapers. The abstract is in English.

Journal article by Westphal entitled "Bonding Options for Airlaid Webs", *Nonwovens World*, Spring 1997, pp. 63-69.

Early passage of the subject application to issue is earnestly solicited.

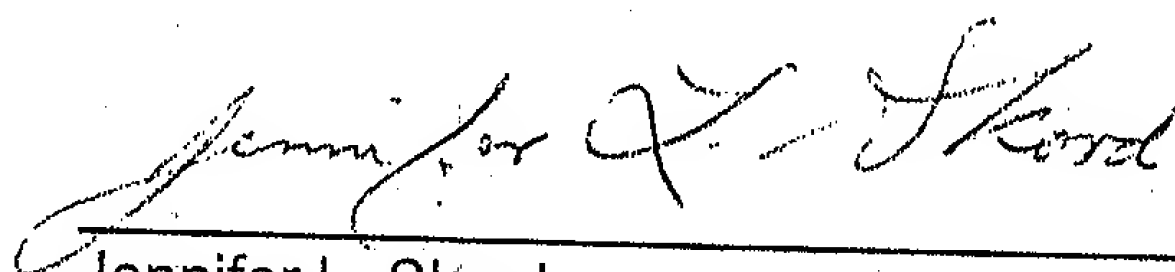
Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this Information Disclosure Statement to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.

Date: October 5, 2000

By:



Jennifer L. Skord  
Registration No. 30,687

Suite 1400 University Tower  
3100 Tower Boulevard  
Durham, North Carolina 27707  
Telephone: (919) 493-8000  
Facsimile: (919) 419-0383

1179/2/2 JLS/ajm

Enclosures

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[illegible][illegible]

Examiner Signature		Date Considered	
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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App. J for use through 10/31/99, OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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				Application Number	09/603,323
				Filing Date	06/26/2000
				First Named Inventor	Fang Sun
				Group Art Unit	
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	1179/2/2

[illegible]

Examiner Signature		Date Considered	
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<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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# **Attachment C**

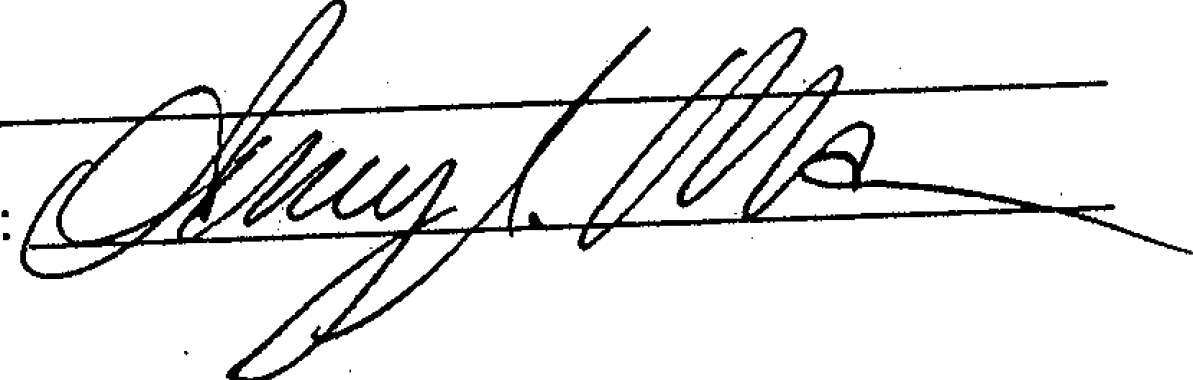
The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
Inventor(s): Sun et al.  
**Serial No.: 09/603,323**  
Title: MANUFACTURE OF WEB ...

The following items mailed to the U.S. Patent and Trademark Office on the date indicated  
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1. Third Information Disclosure Statement (2 pages)
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3. Copy of 1 Cited Reference
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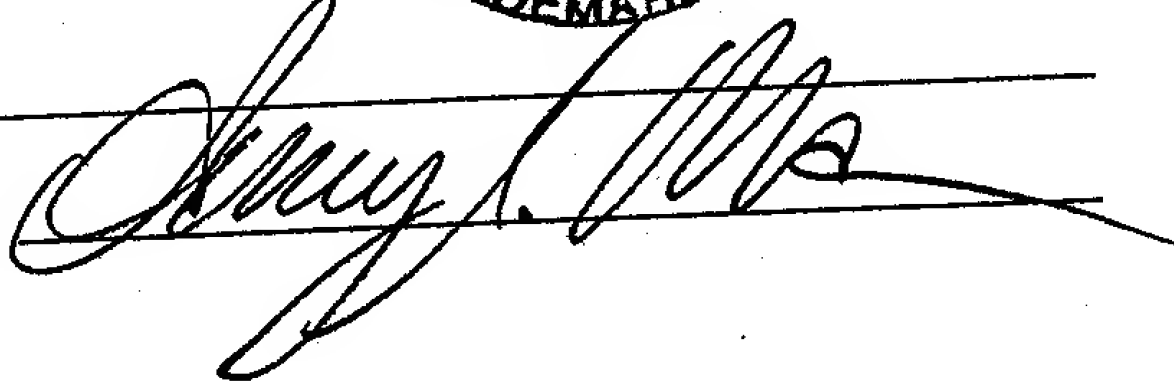
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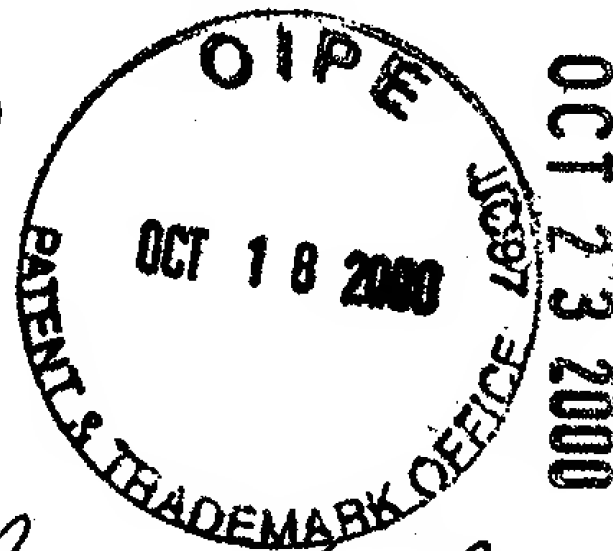
Attorney: JLS  
Docket No.: 1179/2/2  
Inventor(s): Sun et al.  
**Serial No.: 09/603,323**  
Title: MANUFACTURE OF WEB ...

The following items mailed to the U.S. Patent and Trademark Office on the date indicated  
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Amy J. Martin  
Date of Signature 10-16-00

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sun et al.

Serial No.: 09/603,323

Group Art Unit: 1773

Filed: June 26, 2000

Docket No.: 1179/2/2

For: MANUFACTURE OF WEB SUPERABSORBENT POLYMER

\*\*\*\*\*

THIRD INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. 1.56, 1.97, and 1.98, applicants' undersigned attorney brings to the attention of the Patent and Trademark Office the following reference. A copy of the reference and a copy of Form PTO/SB/08A are attached. This is not to be construed as a representation that a search has been made or that a reference is relevant merely because cited.

U.S. Patent No. 5,100,397 to Poccia et al. discloses an absorbent mixture, made from fibers formed into a fibrous web and a polymerizable, cross-linkable material, in a liquid carrier. The material, when polymerized and cross-linked, results in a superabsorbent polymer. The material, in the liquid carrier, is dispersed within the fibrous web, as dispersed inclusions, and is polymerized and cross-linked in situ, within the fibrous web, so as to form a composite web of the fibrous web and the superabsorbent polymer, as dispersed particles, at least some of which are bound to fibers from the fibrous web. The composite web is ground, so as to cause some of the superabsorbent polymers to become particulate while fragments of the superabsorbent polymer remain bound to fibers from the fibrous web. Before the composite web is ground, it may be provided with a fibrous layer or fibrous layers in intimate contact with it, and also compressed.

Early passage of the subject application to issue is earnestly solicited.



Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this Information Disclosure Statement to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.

Date: October 16, 2000

By:

Jennifer L. Skord

Jennifer L. Skord

Registration No. 30,687

Suite 1400 University Tower  
3100 Tower Boulevard  
Durham, North Carolina 27707  
Telephone: (919) 493-8000  
Facsimile: (919) 419-0383

1179/2/2 JLS/ajm

Enclosures



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# **Attachment D**

The U.S. Patent and Trademark  
Office date stamp sets forth the  
date of receipt of:

Attorney: JLS  
Docket No.: 1179/2/2  
**Serial No.: 09/603,323**  
Applicant: Sun et al.

Title: MANUFACTURE OF SUPERABSORBENT POLYMERS AND FIBER

The following items mailed to the U.S. Patent and Trademark Office on the date indicated below:

1. Fourth Information Disclosure Statement
2. Information Disclosure Statement by Applicant (PTO/SB/08A) DEC 20 2000
3. Cited References (11 references)
4. PCT International Search Report
5. Return-Receipt Post Card

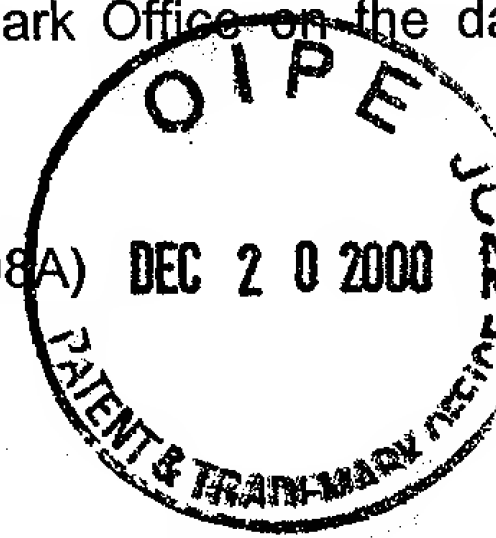
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Shaylor E. Dunn  
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sun et al.

**Serial No.: 09/603,323**

Group Art Unit: 1773

Filed: June 26, 2000

Docket No.: 1179/2/2

For: MANUFACTURE OF SUPERABSORBENT POLYMERS AND FIBER.

\*\*\*\*\*

FOURTH INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In accordance with 37 C.F.R. 1.56, 1.97, and 1.98, applicants' undersigned attorney brings to the attention of the Patent and Trademark Office the following references, which were cited in the October 17, 2000 PCT Search Report for the International Application based on the above-noted Serial No. 09/603,323. A copy of each reference, as well as Form PTO/SB/08A, is attached hereto. A copy of the October 17, 2000 PCT Search Report is also attached. This is not to be construed as a representation that a search has been made or that a reference is relevant merely because cited.

U.S. Patent No. 4,270,977 to Herman et al. discloses a process for preparing water sorptive products.

U.S. Patent No. 5,856,410 to Carrico et al. discloses a polyacrylate superabsorbent post-polymerization neutralized with solid, non-hydroxyl neutralizing agent.

German Published Patent Application No. DE 4206857 A1 discloses polymerization of absorbent materials.

German Published Patent Application No. DE 19540951 A1 discloses water absorbent polymers.

German Published Patent Application No. DE 19619680 A1 discloses a process for regulating superabsorbent polymer production.

German Patent No. DE 19807500 C1 discloses a process for making hydrogels with phosphoric acid esters.

German Published Patent Application No. DE 19809540 A1 discloses water absorbent polymers.

German Published Patent Application No. DE 19813443 A1 discloses water absorbent polymers.

German Published Patent Application No. DE 19846413 A1 discloses hydrophilic water-bearing polymers.

European Published Patent Application No. 0 349 240 A2 discloses a water-absorbent resin and production process.

PCT International Publication No. WO 94/25521 discloses polymer compositions and their production, in particular absorbent materials, and their use.

Early passage of the subject application to issue is earnestly solicited.

Although it is believed that no fee is due, the Commissioner is hereby authorized to charge any deficiencies of payment associated with the filing of this Information Disclosure Statement to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS & WILSON, P.A.

Date: December 15, 2000 By: Jennifer L. Skord  
Jennifer L. Skord  
Registration No. 30,687

Suite 1400 University Tower  
3100 Tower Boulevard  
Durham, North Carolina 27707  
Telephone: (919) 493-8000  
Facsimile: (919) 419-0383

1179/2/2 JLS/sed

Enclosures



PTO/SB/08A (10-96)  
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

+



# **Attachment E**

Date: 3-8-2005  
 SN/Pat. No. 09 / 603, 323  
 Filing/Issue Date: 6-26-2000  
 Confirmation No. 3143  
 Applicant/Inventor: Fang Sun et al  
 Title: mfg. of Webs of SAP + Fiber

Date: 3-8-2005  
 SN/Pat. No. 09 / 603, 323  
 Filing/Issue Date: 6-26-2000  
 Confirmation No. 3143  
 Applicant/Inventor: Fang Sun et al  
 Title: mfg. of Webs of SAP + Fiber

Kindly acknowledge receipt of the accompanying items listed below by placing your receiving stamp hereon and return mailing:

☒ <sup>B</sup>IDS, PTO/SB/08A & 3 documents

☐ Amendment/Response

☐ Notice of Appeal

☐ Appeal Brief

☐ Issue Fee & Part B - Fee(s) Transmittal (PTOL-85)

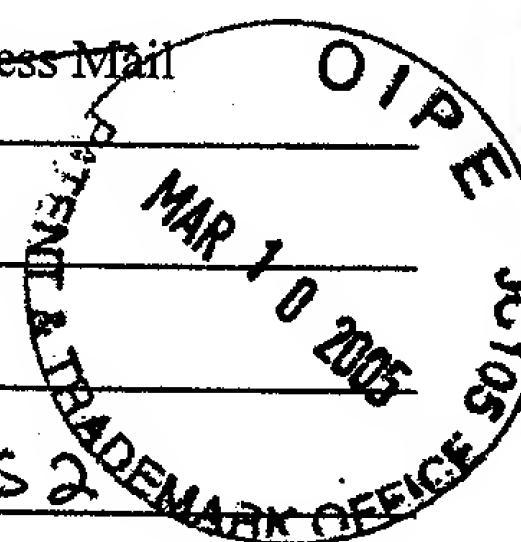
☐ Maintenance Fee

☐ Response to Missing Parts

☒ Certificate of Mailing/Express Mail

☐ OTHER (Specify) \_\_\_\_\_

SMITH MOORE LLP - Docket No. 5003073 - 005US2



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Fang SUN et al.  
Serial No.: 09/603,323  
Confirmation No.: 3143  
Filed: June 26, 2000

Examiner: U. Rajguru  
Group Art Unit: 1711

For: **MANUFACTURE OF WEB OF SUPERABSORBENT POLYMER AND FIBER**

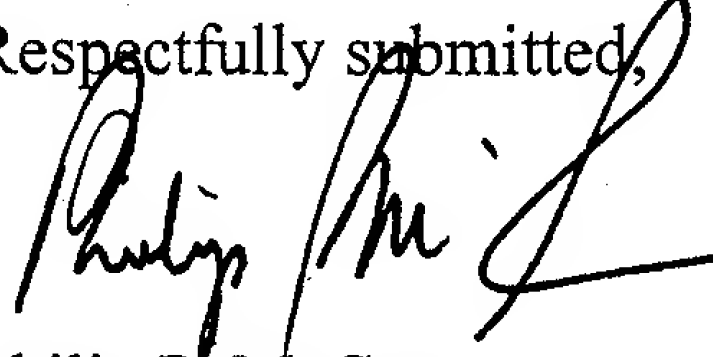
Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**FIFTH INFORMATION DISCLOSURE STATEMENT**

In accordance with 37 C.F.R. § 1.56, counsel wishes to make of record certain items of information for the Examiner's consideration in connection with this application. Enclosed is form PTO/SB/08b for the Examiner's convenience in making such consideration of record. Inclusion herein of any particular item of information is not to be construed as an admission that same is prior art.

The Examiner's attention is directed to the Information Disclosure Statement that was marked as being received by the Patent and Trademark Office on August 07, 2000 wherein on page 2, the Examiner has not initialed Foreign Patent Documents B11 to B20. It is requested that the Examiner initial B11 to B20 and send a copy to the Applicant.

**The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account No. 50-2190.**

Respectfully submitted,  


Philip P. McCann  
Registration No. 30,919  
SMITH MOORE LLP  
P.O. Box 21927  
Greensboro, NC 27420  
(336) 378-5302

Date: March 8, 2005

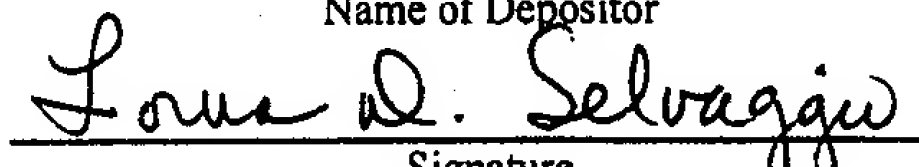
File No.: 05003073-005US2

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST-CLASS MAIL, IN AN ENVELOPE ADDRESSED TO: COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON March 8, 2005  
(Date of Deposit)

Lorna D. Selvaggio

Name of Depositor

  
Signature

March 8, 2005

Date of Signature

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Substitute for form 1449B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

1

of

1

**Complete if Known**

Application Number	09/603,323
Filing Date	June 26, 2000
First Named Inventor	Fang SUN et al
Art Unit	1711
Examiner Name	U. Rajguru
Attorney Docket Number	5003073-005US2

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	a	International Search Report mailed October 17, 2000 in PCT/IB00/00867.	
	b	International Preliminary Examination Report mailed September 25, 2001 in PCT/IB00/00867.	
	c	European Examination Communication mailed April 11, 2003 in EP 00 938 962.8-2123.	

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

# **Attachment F**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: 1-17-2006  
SN/Pat. No. 09/603,323  
Filing/Issue Date: 06/26/2000  
Confirmation No. 3143  
Applicant/Inventor: Fang Sun et al  
Title: Mfg. of Web SAP & Fiber

Kindly acknowledge receipt of the accompanying items listed below  
by placing your receiving stamp hereon and return mailing:

- ☒ Check for \$ 260.00
- ☐ Application papers:
- ☐ Specification pages \_\_\_\_\_
  - ☐ Number of claims \_\_\_\_\_
  - ☐ Declaration pages \_\_\_\_\_
  - ☐ Power of Attorney \_\_\_\_\_
  - ☐ Assignment, Recordal Sheet & Fee \_\_\_\_\_
  - ☐ Drawing pages \_\_\_\_\_
- ☐ Application Transmittal
- ☐ Fee Transmittal
- ☐ Provisional Cover Sheet pages \_\_\_\_\_
- ☐ Application Data Sheet
- ☐ Nonpublication Request - 35 U.S.C. 122

- ☒ ~~IDS Transmittal~~, Form PTO/SB/08 & 42 docs.
- ☒ Amendment/Response
- ☐ Notice of Appeal
- ☐ Appeal Brief
- ☐ Issue Fee & Part B - Fee(s) Transmittal (PTOL-85)
- ☐ Maintenance Fee
- ☐ Response to Missing Parts
- ☒ Certificate of Mailing/Express Mail
- ☒ OTHER (Specify) \_\_\_\_\_

2 Termined Disclaimers;  
copy of postcard date stamped  
Aug 07 2000

SMITH MOORE LLP - Docket No. 500 3013 - 005US2

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: 1-17-2006  
SN/Pat. No. 09/603,323  
Filing/Issue Date: 06/26/2000  
Confirmation No. 3143  
Applicant/Inventor: Fang Sun et al  
Title: Mfg. of Web SAP & Fiber

Kindly acknowledge receipt of the accompanying items listed below  
by placing your receiving stamp hereon and return mailing:

- ☒ Check for \$ 260.00
- ☐ Application papers:
- ☐ Specification pages \_\_\_\_\_
  - ☐ Number of claims \_\_\_\_\_
  - ☐ Declaration pages \_\_\_\_\_
  - ☐ Power of Attorney \_\_\_\_\_
  - ☐ Assignment, Recordal Sheet & Fee \_\_\_\_\_
  - ☐ Drawing pages \_\_\_\_\_
- ☐ Application Transmittal
- ☐ Fee Transmittal
- ☐ Provisional Cover Sheet pages \_\_\_\_\_
- ☐ Application Data Sheet
- ☐ Nonpublication Request - 35 U.S.C. 122

- ☒ ~~IDS Transmittal~~, Form PTO/SB/08 & 42 docs.
- ☒ Amendment/Response
- ☐ Notice of Appeal
- ☐ Appeal Brief
- ☐ Issue Fee & Part B - Fee(s) Transmittal (PTOL-85)
- ☐ Maintenance Fee
- ☐ Response to Missing Parts
- ☒ Certificate of Mailing/Express Mail
- ☒ OTHER (Specify) \_\_\_\_\_

2 Termined Disclaimers;  
copy of postcard date stamped  
Aug 07 2000

SMITH MOORE LLP - Docket No. 500 3013 - 005US2

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Greensboro, NC

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Fang Sun *et al.*  
Serial No. 09/603,323  
Filed: June 26, 2000  
Confirmation No. 3143

Examiner NUTTER, Nathan M.  
Art Unit 1711

For: **MANUFACTURE OF WEB SUPERABSORBENT POLYMER AND FIBER**

Mail Stop AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO 10/14/2005 OFFICE ACTION**

Sir:

In response to the Office Action mailed October 14, 2005, Applicants' attorney respectfully offers the following Remarks and Amendments to the Claims. A check in the amount of \$260.00 is enclose for two Terminal Disclaimer fees. **If any additional fees for the accompanying response are required, the Commissioner is hereby authorized to charge them to Deposit Account No. 502190.**

**Amendments to the Claims** begin on page 2 of this paper; and

**Remarks** begin on page 5 of this paper.



### Amendments to the Claims

1. (Currently Amended) A water sorptive product comprising:  
a wet-laid web of a particulate pre-superabsorbent polymer;  
neutralization agent;  
fiber; and  
water;

wherein the particulate pre-superabsorbent polymer, neutralization agent, water and the fiber are mixed together during the wet-laid process of making a wet-laid web, wherein the particulate pre-superabsorbent polymer is neutralized by the neutralization agent to form a superabsorbent polymer, ~~wherein the water sorptive product exhibits a superior centrifuge retention capacity property.~~

2. (Original) The water sorptive product of claim 1, wherein the superabsorbent polymer has a degree of neutralization less than about 80 mol %.

3. (Previously Presented) The water sorptive product of claim 1, wherein the particulate pre-superabsorbent polymer comprising the reaction product of:

- (a) an olefinically-unsaturated acid selected from the group consisting of carboxylic acid, sulfonic acid, and mixtures thereof;
- (b) a compatible co-monomer for the acid of (a); and
- (c) a cross-linking agent;

said reaction product (i) being water insoluble and (ii) having carboxyl groups present therein, which carboxyl groups, when neutralized to their salt form, maintain the polymer as water insoluble and convert the particulate pre-superabsorbent polymer component into a superabsorbent polymer component.

4. (Original) The water sorptive product of claim 1, wherein the superabsorbent polymer is surface cross-linked.

5. (Previously Presented) The water sorptive product of claim 1, wherein the water sorptive product has a centrifuge retention capacity property above 10 grams/gram.

6. (Previously Presented) The water sorptive product of claim 1, wherein the water sorptive product has an absorbency under load property above about 13 grams/gram at about 20 grams/cm<sup>2</sup> (about 0.3 psi).

Claims 7-19 (Cancelled)

20. (Previously Presented) A wet-laid web comprising:

a particulate pre-superabsorbent polymer;

a neutralizing agent;

fiber; and

water

wherein the ratio of the particulate pre-superabsorbent polymer component to the fibrous component is in the range of from about 90:10 to about 5:95;

wherein the particulate pre-superabsorbent polymer, neutralization agent, water and the fiber are mixed together during the wet-laid process of making a wet-laid web; and ,

wherein the particulate pre-superabsorbent polymer is neutralized by the neutralization agent to form a superabsorbent polymer having a degree of neutralization less than about 80 mol %.

21. (Previously Presented) The wet-laid web of claim 20 wherein the ratio of the polymer component to the fibrous component is in the range of from about 30:70 to about 40:60.

22. (Previously Presented) An absorbent article comprising the wet-laid web of claim 20.

**Remarks**

The Office Action mailed October 14, 2005 has been carefully considered, and Applicants' counsel offers the following remarks.

Attached to the October 14, 2005 Office Action is an Information Disclosure Statement by Applicant stamped received on August 7, 2000 with notations that the foreign references are missing. Attached is a copy of the postcard (also date stamped August 7, 2000) submitted with that Information Disclosure Statement stamped by the OIPE confirming that 92 references were received by the USPTO. Out of caution, we are resubmitting the foreign references marked "missing."

The Office Action rejects claims 1-6 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter. In particular the Examiner finds the recitation "(the) product exhibits a superior centrifuge retention capacity property" is not clear. This recitation has been deleted from claim 1. Withdrawal of this rejection is requested.

The Office Action provisionally rejects claims 1-6 and 20-22 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of copending application No 10/301,929. Copending application has issued into US Patent No. 6,841,229 and was a division of application No 09/602,852 and has priority of Provisional Application No 60/141,412. The present application has priority from Provisional Application No. 60/141,412, the same as the issued '229 patent from the copending application. A terminal disclaimer is filed herewith (Appendix A) to remove this rejection under the judicially created doctrine of obviousness-type double patenting

The Office Action provisionally rejects claims 1-6 and 20-22 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of copending application No 11/052,331. Copending application 11/052,331 has priority of Provisional Application No 60/141,412. The present application has priority from Provisional Application No. 60/141,412, the same as the copending application No 11/052,331. A terminal disclaimer is filed herewith (Appendix B) to remove this rejection under the judicially created doctrine of obviousness-type double patenting

The Office Action rejects claims 1-6 and 20-22 under 35 U.S.C. §102(e) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Woodrum (US 5,997,690) newly cited. Specifically, the Office Action asserts that Woodrum teaches the production of a web by a wet-laid process that includes an ion sensitive superabsorbent polymer (SAP), fibers, and a salt dissolved in the water carrier. Also, the Office Action points out the paragraph bridging column 3 and 4 for the neutralization of the polymer.

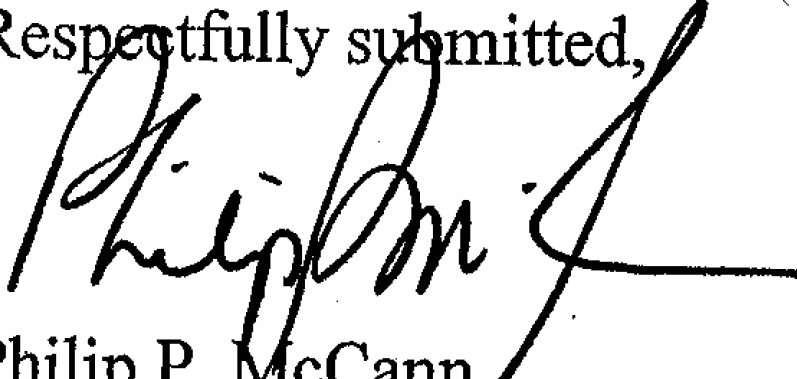
The present invention is directed towards a water sorptive product comprising a wet-laid web of particulate pre-superabsorbent polymer (pre-SAP), neutralization agent, fiber, and water, as disclosed in the present application. The particulate pre-superabsorbent polymer is partially neutralized by neutralizing the polymer after mixing the polymer with the fiber and water during the wet-laid process of making a web, wherein the degree of neutralization of the SAP is partial, and preferably less than about 80 mol %.

Woodrum does not disclose or suggest a water sorptive product comprising a wet-laid web of particulate pre-superabsorbent polymer (pre-SAP), neutralization agent, fiber, and water, as set forth in claims 1-6 and 20-22 of the present application. Woodrum discloses a superabsorbent polymer particle impregnated fibrous structure including an ion sensitive SAP

having a particle size of less than 250 microns, wood pulp fibers and cellulose acetate fibers, that is made by a wet laid process. Woodrum fails to disclose a water sorbtive product including a pre-superabsorbent and a neutralizing agent as set forth in the present claims. Not only does Woodrum fail to teach a water sorbtive product including a neutralizing agent, Woodrum at column 4, lines 2-5, teaches including a salt such as sodium sulfate since carbonates have the effect of further neutralizing the SAP. Based on this, Woodrum would teach away from including a neutralizing agent, as required by the present invention.

In view of the forgoing amendments and remarks, allowance of claims 1-6 and 20-22 is respectfully requested.

Respectfully submitted,



Philip P. McCann  
Registration No. 30,919

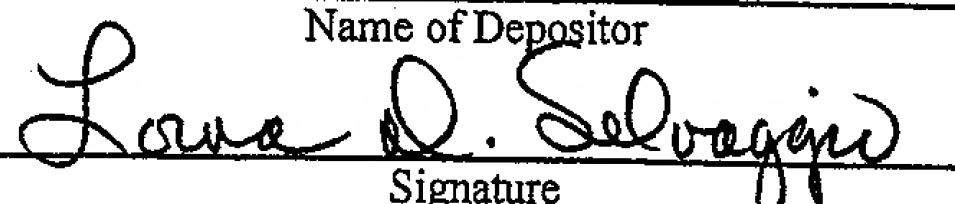
**Smith Moore LLP**  
P.O. Box 21927  
Greensboro, NC 27420  
(336) 378-5302

Date: January 17, 2006  
File No. 5003073-005US2

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST-CLASS MAIL, IN AN ENVELOPE ADDRESSED TO: MAIL STOP AMENDMENT, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450, ON January 17, 2006  
(Date of Deposit)

Lorna D. Selvaggio  
Name of Depositor



Signature

January 17, 2006  
Date of Signature



Serial No. 09/603,323

Docket No. 5003073-005US2

## **APPENDIX A**

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING  
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

In re Application of: Fang Sun et al.

Application No.: 09/603,323

Filed: 06/26/2000

For: MANUFACTURE OF WEB SUPERABSORBENT POLYMER AND FIBER

The owner\*, Stockhausen GmbH, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 6,841,229 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

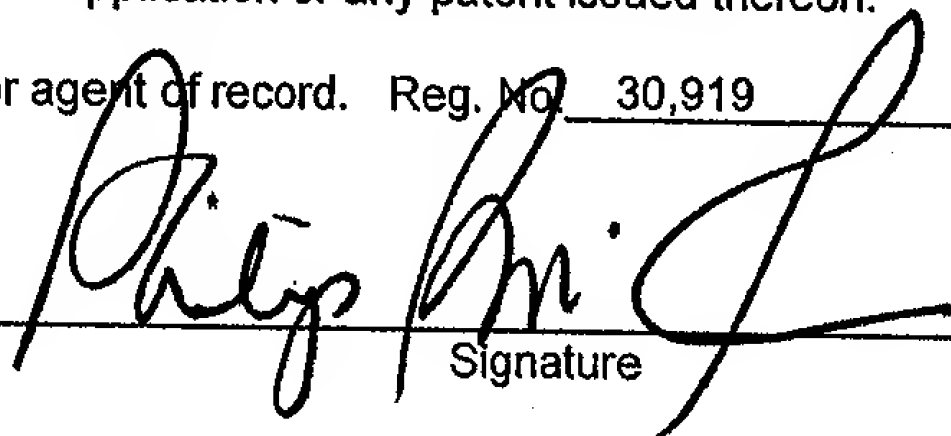
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 30,919



Signature

January 17, 2006

Date

Philip P. McCann

Typed or printed name

336.378.5302

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

\*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).  
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Serial No. 09/603,323

Docket No. 5003073-005US2

## **APPENDIX B**

**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING  
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Docket Number (Optional)

5003073.005US2 (1179/2/2)

In re Application of: Fang Sun et al.

Application No.: 09/603,323

Filed: 06/26/2000

For: MANUFACTURE OF WEB SUPERABSORBENT POLYMER AND FIBER

The owner\*, Stockhausen GmbH, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 11/052,331, filed on 02/07/2005, as such term is defined in 35 U.S.C. 154 and 173, and as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

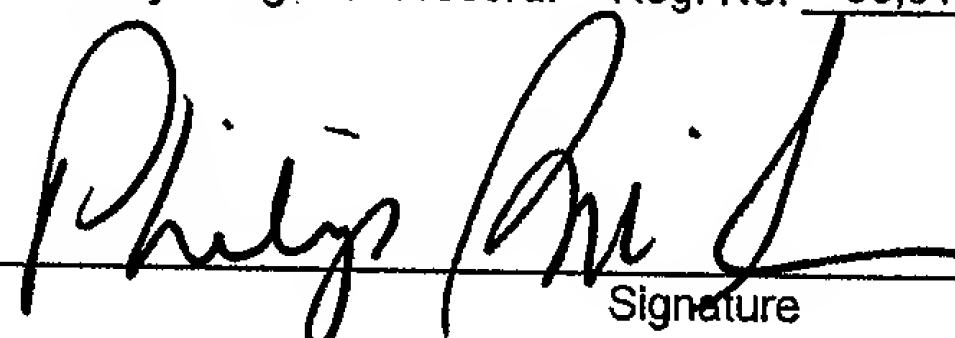
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 30,919

  
Signature

January 17, 2006

Date

Philip P. McCann

Typed or printed name

336.378.5302

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

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Attorney: JLS

Docket No.: 1179/2/2

Serial No.: 09/603,323

Applicant: Sun et al.

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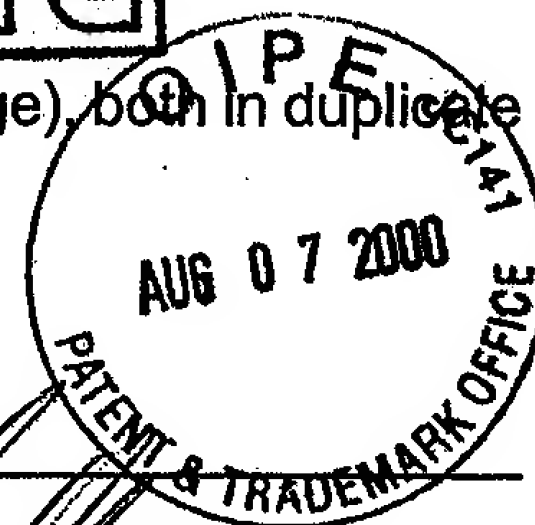
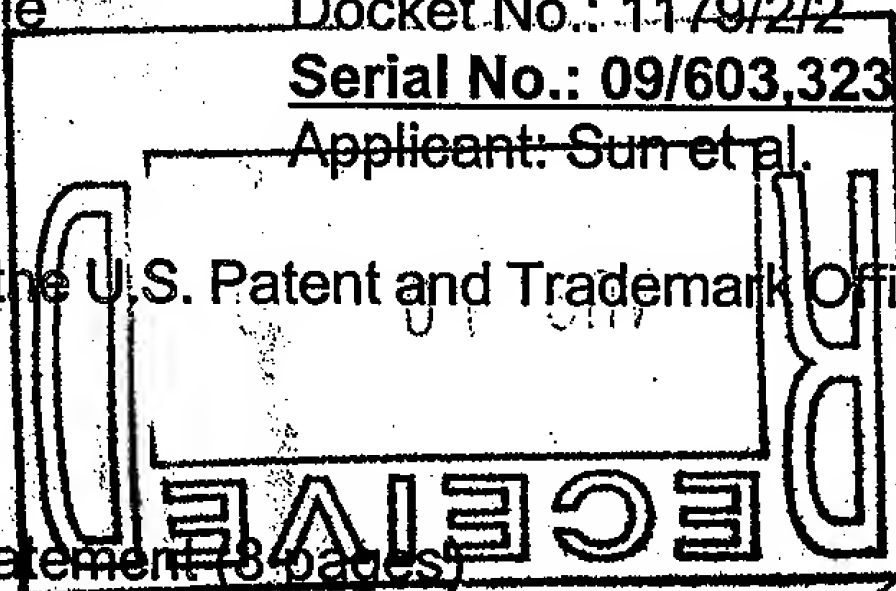
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2. Information Disclosure Statement (8 pages)
3. Forms PTO/SB/08A (5 pages) and PTO/SB/08B (1 page), both in duplicate
4. Copies of 92 Cited References
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Date Transmitted: August 3, 2000

By



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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

## Complete if Known

Application Number	09/603,323
Filing Date	06/26/2000
First Named Inventor	Fang Sun et al.
Group Art Unit	1711
Examiner Name	NUTTER, Nathan M.
Attorney Docket Number	5003073.005US2 (1179/2/2)

FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B1	WO	92/02596		Grigorian et al.	02/20/1992		X
	B2	WO	92/15741		Sultze et al.	09/17/1992		X
	B3	WO	93/17066		Johnson	09/02/1993		X
	B4	WO	93/21879		Osborn, III	11/11/1993		X
	B5	WO	93/24153		Graham	12/09/1993		X
	B6	WO	96/12849		Holm et al.	05/02/1996		X
	B7	WO	96/23474		Hammons et al.	08/08/1996		X
	B8	EP	0 336 578		Osborn, III	10/11/1989		X
	B9	EP	0 339 461		Kellenberger	11/02/1989		X
	B10	EP	0 359 615		Makoul et al.	03/21/1990		X
	B11	EP	0 437 816		Kim	07/24/1991		X
	B12	EP	0 483 816		Barnes et al.	05/06/1992		X
	B13	EP	0 495 108		Grigorian et al.	07/22/1992		X
	B14	EP	0 516 925		Stanley et al.	12/09/1992		X
	B15	EP	0 530 438		Chambers et al.	03/10/1993		X
	B16	EP	0 641 885		Mizukami et al.	03/08/1995		X
	B17	CA	2,008,323		Tai	07/24/1990		X
	B18	CA	2,042,183		Mallo	11/15/1991		X
	B19	JP	01024808		Arakawa Kagaku Kogyo KK	09/23/1993		X
	B20	JP	01178509		Saotome K	09/23/1993		X
	B21	JP	02052057		Rikagaku Kankyusho	09/28/1993		X
	B22	JP	03045799		Mitsubishi Paper Mills Ltd	09/28/1993		X
	B23	JP	03296592		Nippon Shokubai Co Ltd	10/06/1993		X
	B24	JP	06000370		Nippon Shokubai Co Ltd	03/22/1994		X
	B25	JP	06016822		Sekisui Plastics Co Ltd	04/18/1994		X
	B26	JP	06158581		Kanebo Ltd.	06/07/1994		X
	B27	JP	06263881		Mitsubishi Petrochemical Co Ltd	12/12/1994		X
	B28	JP	63143906		Hayashikane Shipbuilding	06/16/1988		X
	B29	JP	07025935		Idemitsu Petrochem Co	04/12/1995		X
	B30	JP	08092454		Sanyo Chem Ind Ltd	06/18/1996		X

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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet	2	of	2
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**Complete if Known**

Application Number	09/603,323
Filing Date	06/26/2000
First Named Inventor	Fang Sun et al.
Group Art Unit	1711
Examiner Name	NUTTER, Nathan M.
Attorney Docket Number	5003073.005US2 (1179/2/2)

**FOREIGN PATENT DOCUMENTS**

[illegible]

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

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# **Attachment G**

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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## Complete if Known

Application Number 09/603,323  
Filing Date 06/26/2000  
First Named Inventor Fang Sun  
Group Art Unit  
Examiner Name  
Attorney Docket Number 1179/2/2

Sheet 1 of 5

Page No 2

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
W	A1	4,076,663		Masuda et al.	02/28/1978	
W	A2	4,260,443		Lindsay et al.	04/07/1981	
W	A3	4,270,977		Herman et al.	06/02/1981	
W	A4	5,409,771		Dahment et al.	04/25/1995	
W	A5	4,286,082		Tsubakimoto et al.	08/25/1981	
W	A6	4,418,163		Murakami et al.	11/29/1983	
W	A7	4,454,055		Richman et al.	06/12/1984	
W	A8	4,467,012		Pedersen et al.	08/21/1984	
W	A9	4,550,033		Boutin	10/29/1985	
W	A10	4,552,618		Kopolow	11/12/1985	
W	A11	4,587,308		Makita et al.	05/06/1986	
W	A12	4,600,458		Kramer et al.	07/15/1986	
W	A13	4,626,472		Boutin	12/02/1986	
W	A14	4,654,039		Brandt et al.	03/31/1987	
W	A15	4,732,968		Obayashi et al.	03/22/1988	
W	A16	4,735,987		Morita et al.	04/05/1988	
W	A17	4,758,617		Tanioku et al.	07/19/1988	
W	A18	4,833,198		Stanley, Jr. et al.	05/23/1989	
W	A19	4,865,596		Weisman et al.	09/12/1989	
W	A20	4,914,066		Woodrum	04/03/1990	

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Office <sup>2</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B1	WO	92/02596		Grigorian et al.	02/20/1992		X
	B2	WO	92/15741		Sultze et al.	09/17/1992		X
	B3	WO	93/17066		Johnson	09/02/1993		X
	B4	WO	93/21879		Osborn, III	11/11/1993		X
	B5	WO	93/24193		Graham	12/09/1993		X
	B6	WO	95/12849		Holm et al.	05/02/1996		X
	B7	WO	96/23474		Hammons et al.	08/28/1996		X
	B8	EP	0 336 578		Osborn, III	10/11/1989		X
	B9	EP	0 339 461		Kellenberger	11/02/1989		X
	B10	EP	0 389 615		Makoul et al.	03/21/1990		X

For the JP Patent Publications, the JP Patent Publication is not enclosed, but only an English language abstract is enclosed.

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Signature

Date  
Considered

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INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

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## Complete if Known

Application Number 09/603,323  
 Filing Date 06/26/2000  
 First Named Inventor Fang Sun  
 Group Art Unit  
 Examiner Name #2  
 Attorney Docket Number 1179/2/2

Sheet 2 of 5

## U.S. PATENT DOCUMENTS

Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>3</sup> (if known)			
~	A21	4,929,502		Giglia	05/29/1990	
~	A22	4,950,264		Osborn, III	08/21/1990	
~	A23	4,977,192		Martineu et al.	12/11/1990	
~	A24	4,986,882		Mackey et al.	01/22/1991	
~	A25	5,009,653		Osborn, III	04/23/1991	
~	A26	5,087,656		Yoshinaga et al.	02/11/1992	
~	A27	5,093,130		Fujii et al.	03/03/1992	
~	A28	5,096,944		Itou et al.	03/17/1992	
~	A29	5,145,906		Chambers et al.	09/08/1992	
~	A30	5,147,343		Kellenberger	09/15/1992	
~	A31	5,147,921		Mallo	09/15/1992	
~	A32	5,160,789		Barcus et al.	11/03/1992	
~	A33	5,217,445		Young et al.	06/08/1993	
~	A34	5,300,192		Hansen et al.	04/05/1994	
~	A35	5,208,896		Hansen et al.	05/03/1994	
~	A36	5,383,869		Osborn, III	01/24/1995	
~	A37	5,422,169		Roe	06/06/1995	
~	A38	5,447,977		Hansen et al.	09/05/1995	
~	A39	5,453,323		Chambers et al.	09/26/1995	
~	A40	5,496,626		Hamajima et al.	03/05/1996	

## FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>2</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>4</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B11	EP	0 437 816		Kim	07/24/1991		X
	B12	EP	0 483 816		Barnes et al.	05/06/1992		X
	B13	EP	0 495 108		Grigorian et al.	07/22/1992		X
	B14	EP	0 516 925		Stanley et al.	12/09/1992		X
	B15	EP	0 530 438		Chambers et al.	03/10/1993		X
	B16	EP	0 641 886		Mizukami et al.	03/08/1995		X
	B17	CA	2,008,323		Tai	07/24/1990		X
	B18	CA	2,042,183		Mallo	11/15/1991		X
	B19	JP	01024808		Arakawa Kagaku Kogyo KK	09/23/1993		X
	B20	JP	01178509		Saotome K	09/23/1993		X

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 3

of 15

Application Number	09/603,323
Filing Date	06/26/2000
First Named Inventor	Fang Sun
Group Art Unit	
Examiner Name	
Attorney Docket Number	1179/2/2

**U.S. PATENT DOCUMENTS**

[illegible]

**FOREIGN PATENT DOCUMENTS**

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	To
		Office <sup>3</sup>	Number <sup>4</sup>				
	B21	JP	02052057	Rikagaku Kankyusho	09/28/1993		X
	B22	JP	03045799	Mitsubishi Paper Mills Ltd	09/28/1993		X
	B23	JP	03296592	Nippon Shokubai Co Ltd	10/06/1993		X
	B24	JP	06000370	Nippon Shokubai Co Ltd	03/22/1994		X
	B25	JP	06014822	Sekisui Plastics Co Ltd	04/18/1994		X
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	B27	JP	06263881	Mitsubishi Petrochemical Co Ltd	12/12/1994		X
	B28	JP	63143906	Hayashikane Shipbuilding	06/16/1988		X
	B29	JP	07025935	Idemitsu Petrochem Co	04/12/1995		X
	B30	JP	08092454	Sanyo Chem Ind Ltd	06/18/1996		X

the JP Patent Publication is not enclosed, but

B29 JP	07023755	Sanyo Chem Ind Ltd	06/18/1999
B30 JP	08092454		

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Date \_\_\_\_\_

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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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number of the patent document. \* Kind of document by the appropriate number. \*\* If the document is in a language other than English, a translation must be submitted, if possible. \* Applicant is to place a check mark here if English language Translation is attached.

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Sheet 4

of 5

Attorney Docket Number

1179/2/2

**U.S. PATENT DOCUMENTS**

[illegible]

**FOREIGN PATENT DOCUMENTS**

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.¹	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document [- MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T²
		Office³	Number¹				
<i>me</i>	B31	JP	08217909		Arakawa Chem Ind Ltd	11/04/1996	X
	B32	JP	59080459		Arakawa Kagaku Kogyo KK	09/25/1993	X
	B33	JP	61902710		Toray Ind Inc	09/25/1993	X
	B34	JP	61141760		Miyata Kogyo KK	09/22/1993	X
	B35	JP	62243648		Kajiwarai H	09/22/1993	X
	B36	JP	62254841		Osaka Yuki Kagaku	09/22/1993	X
	B37	JP	63105064		Nippon Synthetic Chem Ind Co	09/23/1993	X
	B38	JP	63146901		Shiraishi Chuo Kenkyusho KK	09/23/1993	X
	B39	JP	63210109		Kanac Kagaku Kogyo KK	09/23/1993	X
	B40	JP	63216742		Newton KK	09/23/1993	X

Foreign Patent Publication is not enclosed, but

B39 JP 6321672	Newton KK	09/25/1995
B40 JP 6321672		

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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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**Complete if Known**

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**(use as many sheets as necessary)**

Application Number	09/603,323
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Filing Date	06/26/2000
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First Named Inventor	Fang Sun
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### Group Art Unit

**Examiner Name**

**Attorney Docket Number** 1179/2/2

Sheet 5

of S

**U.S. PATENT DOCUMENTS**

[illegible]

**FOREIGN PATENT DOCUMENTS**

[illegible]

For the JP Patent Publications, the Jp Patent Publication is not enclosed, but only an English language Abstract is enclosed. Date 10-85

**Examiner  
Signature**

Date \_\_\_\_\_

**Considered**

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

number of the patent document. \* Kind of document by which the patent was obtained. \* If the document is in a language other than English, an English language translation must be submitted, if possible. \* Applicant is to place a check mark here if English language Translation is attached.

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# **Attachment H**

PTO/SB/08A (10-96)  
Approved for use through 10/31/99. OMB 0651-0031  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE  
Information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	1
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**Complete if Known**

Application Number	09/603,323
Filing Date	06/26/2000
First Named Inventor	Fang Sun
Group Art Unit	
Examiner Name	
Attorney Docket Number	1179/2/2

**RECEIVED**

OCT 15 2000

**GROUP 700**

**U.S. PATENT DOCUMENTS**

[illegible]

**FOREIGN PATENT DOCUMENTS**

[illegible]

\*Only the Abstract is in English

**Examiner  
Signature**

U.K. RAJGURU

Date  
Considered

JAN 23, 2002

Examiner Signature	U. K. KANGARU	Considered	Yes
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

2. Attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code of the Examiner must precede the serial

\*EXAMINER: Initial if reference considered, whether or not citation is considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Time will vary depending upon the needs of the individual case. An Office Patent and Trademark Office, Washington

code (WIPO Standard C-1).  
number of the patent document. \* Kind of document by the appropriate symbol.  
possible. \* Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)			<b>Complete if Known</b>	
			Application Number	09/603,323
			Filing Date	06/26/2000
			First Named Inventor	Fang Sun
			Group Art Unit	
			Examiner Name	
			Attorney Docket Number	1179/2/2
Sheet	1	of	1	

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[illegible]

Examiner Signature	V. K. RAJ & VRV	Date Considered	JAN 23, 2002
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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# **Attachment I**



1

Attorney Docket Number 1179/2/2

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# **Attachment J**

MAR 10 2005  
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PTO/SB/08b (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

## Complete if Known

Application Number	09/603,323
Filing Date	June 28, 2000
First Named Inventor	Fang SUN et al
Art Unit	1711
Examiner Name	U. Rajguru
Attorney Docket Number	5003073-005US2

## NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T. <sup>2</sup>
UR	a	International Search Report mailed October 17, 2000 in PCT/IB00/00867.	
	b	International Preliminary Examination Report mailed September 25, 2001 in PCT/IB00/00867.	
	c	European Examination Communication mailed April 11, 2003 in EP 00 938 962.8-2123.	

Examiner Signature	U. K. RAJGURU	Date Considered	APR 19, 2005
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<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.  
This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.